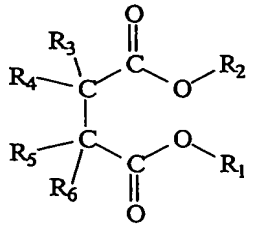
## CLAIMS

1. A solid catalyst component for the (co)polymerization of olefins comprising titanium, magnesium, halogen and a succinate which is obtainable by a process comprising the following steps:
   (a) dissolving a halide of magnesium in a solvent system comprising an organic epoxy compound or an organic phosphorus compound and optionally an inert diluent to form a solution;
   (b) mixing the obtained solution with a titanium compound to form a mixture;
   (c) precipitating a solid from the mixture obtained in step (b) in the presence of a succinate and/or an auxiliary precipitant;
   (d) if a succinate is not used in step (c), contacting the solid obtained in (c) with a succinate, and
   (e) treating the solid obtained in (c) or (d) with a titanium compound optionally in the presence of an inert diluent.
2. The catalyst component according to claim 1 characterized in that said auxiliary precipitant is selected from organic anhydrides, organic acids, ethers, aldehydes and ketones.
3. The catalyst component according to claim 1 characterized in that said auxiliary precipitant is selected from acetic anhydride, phthalic anhydride, succinic anhydride, maleic anhydride, pyromellitic dianhydride, acetic acid, propionic acid, butyric acid, acrylic acid, methacrylic acid, acetone, methyl ethyl ketone, benzophenone, dimethyl ether, diethyl ether, dipropyl ether, dibutyl ether, diamyl ether and any combination thereof.
4. The catalyst component according to claim 1 characterized in that said magnesium halide is magnesium dichloride.
5. The catalyst component according to claim 1 characterized in that the organic epoxy compound is selected from the group consisting of oxides of aliphatic olefins, aliphatic diolefins, halogenated aliphatic olefins, and halogenated aliphatic diolefins, glycidyl ethers, cyclic ethers and the like having 2-8 carbon atoms.
6. The catalyst component according to claim 1 characterized in that the titanium compound has the formula $TiX_n(OR)_{4-n}$ wherein X is a halogen, each R is independently a hydrocarbyl group and n is an integer of from 0 to 4.

7. The catalyst component according to claim 6 characterized in that the titanium compound is selected from the group consisting of titanium tetrachloride, titanium tetrabromide, titanium tetraiolide, tetrabutoxy titanium, tetraethoxy titanium, chlorotriethoxy titanium, dichlorodiethoxy titanium, trichloroethoxy titanium and the like.
8. The catalyst component according to claim 1 characterized in that the succinate is selected from those having the formula (I) :


(I)

wherein the radicals $R_1$ and $R_2$, equal to or different from each other, are a $C_1$-$C_{20}$ linear or branched alkyl, alkenyl, cycloalkyl, aryl, arylalkyl or alkylaryl group, optionally containing heteroatoms; the radicals $R_3$ to $R_6$ equal to or different from each other, are hydrogen or a $C_1$-$C_{20}$ linear or branched alkyl, alkenyl, cycloalkyl, aryl, arylalkyl or alkylaryl group, optionally containing heteroatoms, further, the radicals $R_3$ to $R_6$ can be linked together to form a cycle.
9. The catalyst component according to claim 8 characterized in that in the succinate of formula (I) $R_1$ and $R_2$ are $C_1$-$C_8$ alkyl, cycloalkyl, aryl, arylalkyl and alkylaryl groups.
10. The catalyst component according to claim 8 characterized in that in the succinate of formula (I) $R_3$ to $R_5$ are hydrogen and $R_6$ is a branched alkyl, cycloalkyl, aryl, arylalkyl and alkylaryl radical having from 3 to 10 carbon atoms.
11. The catalyst component according to claim 8 characterized in that in the succinate of formula (I) at least two radicals from $R_3$ to $R_6$ are different from hydrogen and are selected from $C_1$-$C_{20}$ linear or branched alkyl, alkenyl, cycloalkyl, aryl, arylalkyl or alkylaryl group, optionally containing heteroatoms.
12. The catalyst component according to claim 11 characterized in that in the succinate of formula (I) the at least two radicals from $R_3$ to $R_6$ different from hydrogen are linked to different carbon atoms.
13. Catalyst for the polymerization of olefins $CH_2$=CHR, in which R is hydrogen or a

hydrocarbyl radical with 1-12 carbon atoms, comprising the product of the reaction between (A) the solid catalyst component according to anyone of the claims 1-12, (B) an alkylaluminum compound and, optionally, (C) one or more electron-donor compounds (external donor).

14. The catalyst according to claim 13 in which the alkylaluminum compound (b) is a trialkyl aluminum compound.
15. The catalyst according to claim 13 in which the external donor (C) is a silicon compound of formula. $R_a^5R_b^6Si(OR^7)_c$, where a and b are integer from 0 to 2, c is an integer from 1 to 4 and the sum (a+b+c) is 4; $R^5$, $R^6$ and $R^7$ are alkyl, cycloalkyl or aryl radicals with 1-18 carbon atoms optionally containing heteroatoms.
16. The catalyst according to claim 15 in which a is 1, b is 1 and c is 2.
17. The catalyst according to claim 15 in which $R^5$ and/or $R^6$ are branched alkyl, cycloalkyl or aryl groups with 3-10 carbon atoms optionally containing heteroatoms and $R^7$ is a $C_1$-$C_{10}$ alkyl group, in particular methyl.
18. The catalyst according to claim 15 in which a is 0, c is 3 and $R^6$ is a branched alkyl or cycloalkyl group and $R^7$ is methyl.
19. Process for the (co)polymerization of olefins $CH_2$=CHR, in which R is hydrogen or a hydrocarbyl radical with 1-12 carbon atoms, carried out in the presence of a catalyst according to anyone of claims 13-18.